

WHAT IS CLAIMED IS:

- 1 1. A fan array fan section in an air-handling system comprising:
2 (a) at least three fan units;
3 (b) said at least three fan units arranged in a fan array;
4 (c) an air-handling compartment within which said fan array of fan units
5 is positioned; and
6 (d) an array controller for controlling said at least three fan units to run
7 at substantially peak efficiency.

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1 2. The fan array fan section in an air-handling system of claim 1,
2 wherein said at least three fan units are plenum fans.

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1 3. The fan array fan section in an air-handling system of claim 1,
2 wherein said air-handling compartment has an airway path, said airway path being less
3 than 72 inches.

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1 4. The fan array fan section in an air-handling system of claim 1,
2 wherein said at least three fan units are a plurality of fan units arranged in a fan array
3 configuration selected from the group consisting of:

- 4 (a) a true array configuration;
5 (b) a spaced pattern array configuration;
6 (c) a checker board array configuration;
7 (d) rows slightly offset array configuration;
8 (e) columns slightly offset array configuration; and
9 (f) a staggered array configuration.

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1 5. The fan array fan section in an air-handling system of claim 1,
2 wherein said at least three fan units are plenum fans include at least two vertically
3 arranged fan units.

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13. The fan array fan section in an air-handling system of claim 11,
wherein said plurality of fan units are plenum fans.

14. The fan array fan section in an air-handling system of claim 11,
wherein said air-handling compartment has an airway path, said airway path being less
than 72 inches.

15. The fan array fan section in an air-handling system of claim 11,
wherein said plurality of fan units are arranged in a fan array configuration selected from
the group consisting of:

- (a) a true array configuration;
- (b) a spaced pattern array configuration;
- (c) a checker board array configuration;
- (d) rows slightly offset array configuration;
- (e) columns slightly offset array configuration; and
- (f) a staggered array configuration.

16. The fan array fan section in an air-handling system of claim 11,
wherein each of said plurality of fan units is positioned within a fan unit chamber.

17. The fan array fan section in an air-handling system of claim 11,
wherein each of said plurality of fan units is suspended within a fan unit chamber such
that there is an air relief passage therebelow.

18. The fan array fan section in an air-handling system of claim 11,
wherein each of said plurality of fan units is positioned within a fan unit chamber having
at least one insulation surface.

1 19. The fan array fan section in an air-handling system of claim 11,
2 wherein each of said plurality of fan units is mounted in a grid system.

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1 20. The fan array fan section in an air-handling system of claim 11,
2 wherein each of said plurality of fan units has a fan wheel diameter, wherein spacing
3 between said plurality of fan units is less than 60% of said fan wheel diameter.

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